PERBANDINGAN KINERJA SINGLE LINKAGE, COMPLETE LINKAGE, DAN AVERAGE LINKAGE DALAM PENGELOMPOKKAN CITRA WAJAH

SEPTINA ANGGRAENI
(Pembimbing : Ricardus Anggi Pramunendar, MCS)
Teknik Informatika - S1, FIK, Universitas Dian Nuswantoro
www.dinus.ac.id
Email : 111201206767@mhs.dinus.ac.id

ABSTRAK

Sekarang ini sistem pengenalan wajah banyak berperan di berbagai bidang, seperti absensi, keamanan dalam kontrol akses dan identifikasi seseorang. Pengenalan wajah merupakan salah satu pengenalan pola untuk keperluan identifikasi personal disamping pendekatan biometrik lainnya seperti pengenalan sidik jari, tanda tangan, retina mata, dan sebagainya. Pengenalan wajah banyak menarik perhatian dalam lingkungan akses informasi. Pengelompokkan citra wajah dapat membantu sistem pengenalan wajah agar lebih efisiensi dan menemukan keakuratan dalam hal mengenali identitas citra wajah. Pengelompokan citra wajah ini bertujuan untuk mengelompokan setiap citra wajah dalam database berdasarkan identitas wajah. Dalam kaitan tersebut, maka diperlukan suatu metode yang dapat mengenali citra wajah dengan cara mengekstraksi fiturnya. Scale Invariant Feature Transform (SIFT) merupakan salah satu metode yang digunakan dalam pengenalan citra. Kemudian fitur citra yang diekstraksi dikelompokkan dengan algoritma Hierarchical Agglomerative Clustering (HAC) dengan teknik yang digunakan Single Linkage, Complete Linkage, dan Average Linkage. Dari hasil pengujian yang di dapatkan kinerja clustering Complete linkage lebih baik yaitu 36% dibandingkan dengan Single linkage 31% dan Average linkage 35%.

Kata Kunci : Scale Invariant Feature Transform, Biometrik, Wajah, Hierarchical Agglomerative Clustering

Performance Comparison Of Single Linkage, Complete Linkage, And Average Linkage Method For Face Clustering

SEPTINA ANGGRAENI
(Lecturer : Ricardus Anggi Pramunendar, MCS)
Bachelor of Informatics Engineering - S1, Faculty of Computer Science, DINUS University
www.dinus.ac.id
Email : 111201206767@mhs.dinus.ac.id

ABSTRACT

Now this face recognition systems a lot of plays in various fields, such as attendance, access control and security in the identification of a person. Face recognition is one of the pattern recognition for personal identification purposes in addition to other biometric approach, such as the introduction of fingerprints, signatures, the retina of the eye, and so on. Face recognition many attract attention in information access environments. Grouping image faces facial recognition systems can help to better efficiency and found the accuracy in terms of recognizing the identity of the image of the face. Face image grouping aims to classify every image of a face in a database based on the identity of a face. In connection, then needed a method that can recognize a face image by way of extracting features. Scale Invariant Feature Transform (SIFT) is one method used in image recognition. Then the image features extracted Hierarchical Agglomerative algorithm grouped by Clustering (HAC) with techniques used Single Linkage, Complete Linkage, and Average Linkage. From the test results that are in complete linkage clustering performance get better i.e. 36% compared to single linkage linkage average 31% and 35%.

Keyword : Scale Invariant Feature Transform, Recognition, Face, Hierarchical Agglomerative Clustering